

Candidate Name _____

Centre Number

Candidate
Number

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International General Certificate of Secondary Education

UNIVERSITY OF CAMBRIDGE LOCAL EXAMINATIONS SYNDICATE

PHYSICS

0625/5

PAPER 5 Practical Test

ANSWER BOOKLET

Monday

22 NOVEMBER 1999

Morning

1 hour 15 minutes

TIME 1 hour 15 minutes

INSTRUCTIONS TO CANDIDATES

Write your name, Centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

Write your answers in the spaces provided in the answer booklet.

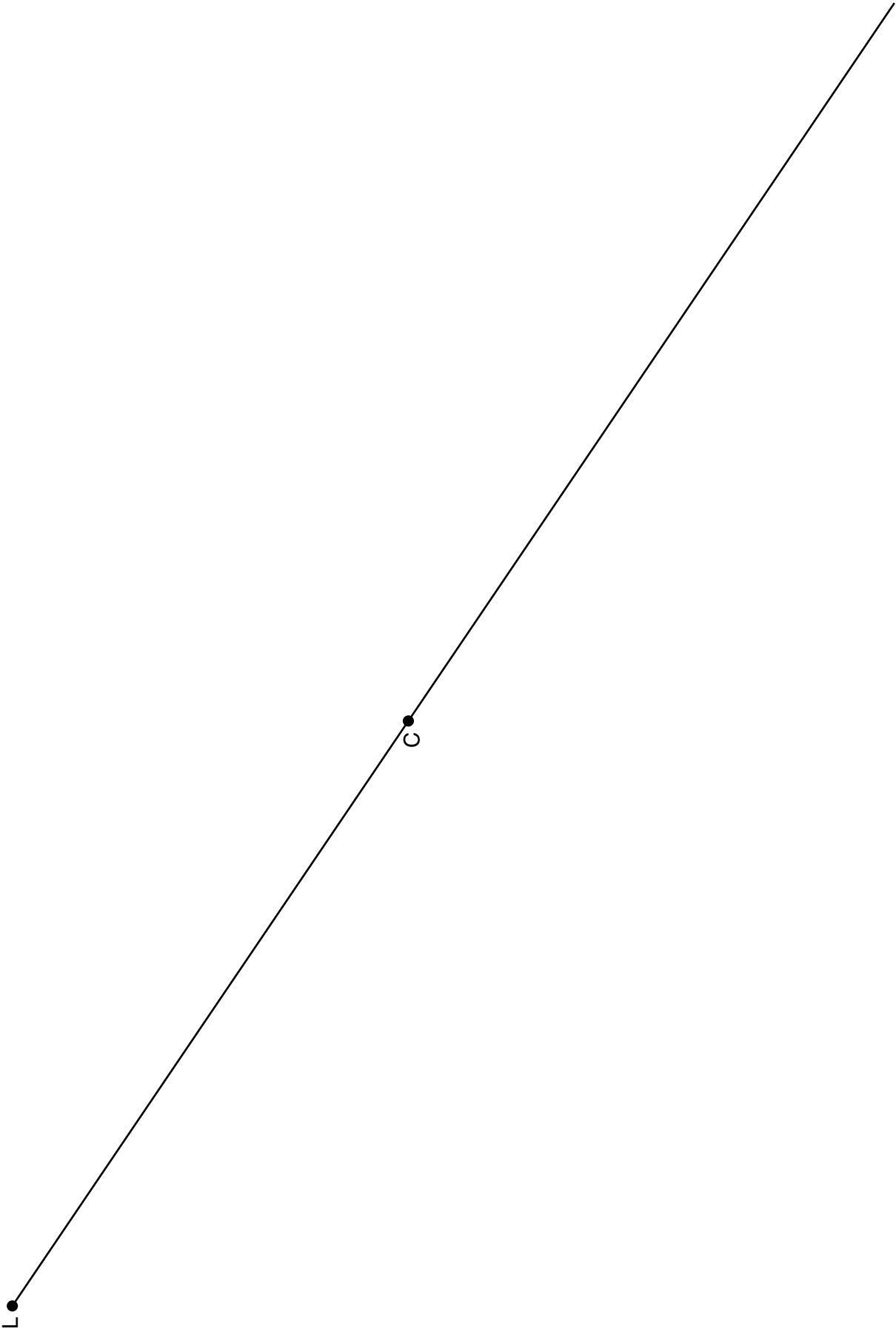
FOR EXAMINER'S USE

1	
2	
3	
4	
TOTAL	

This answer booklet consists of 8 printed pages.

1 (a)

2



[5]

(d)

$v_0 =$	mm	$v_0 =$	m
$v_{25} =$	mm	$v_{25} =$	m
$v_{50} =$	mm	$v_{50} =$	m
$v_{75} =$	mm	$v_{75} =$	m

$u =$	mm	$u =$	m
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[5]

(e) Calculate the power of the system with the beaker containing **0 g of sugar**.

$$\text{power} = \frac{1}{u} + \frac{1}{v_0} = \quad =$$

Calculate the power of the system with the beaker containing **25 g of sugar**.

$$\text{power} = \frac{1}{u} + \frac{1}{v_{25}} = \quad =$$

Calculate the power of the systems with the beakers containing **50 g of sugar** and **75 g of sugar**.

$$\text{power} = \frac{1}{u} + \frac{1}{v_{50}} = \quad =$$

$$\text{power} = \frac{1}{u} + \frac{1}{v_{75}} = \quad =$$

[4]

(f) When the sugar solution concentration increases, the power of the system

.....[1]

2 (a)

connection	V_0/V	V_c/V	current / A
X			$I_X =$
Y			$I_Y =$
Z			$I_Z =$

[3]

(c) The voltmeter reading

increases

decreases

remains the same.

[1]

(d) $R_W = \frac{V_c}{I_X} =$

$$R_T = \frac{V_0}{I_X} =$$

resistance within the battery =[3]

(e) $R_W = \frac{V_c}{I_Y} =$

$$R_T = \frac{V_0}{I_Y} =$$

resistance within the battery =[3]

(f) $R_W = \frac{V_c}{I_Z} =$

$$R_T = \frac{V_0}{I_Z} =$$

resistance within the battery =[3]

- (g) When the current in the circuit increased, the resistance of the wire

increased significantly

decreased significantly

remained approximately the same.

[1]

- (h) The battery consists of three cells. Calculate the average resistance within **one** cell.

average resistance within one cell =[1]

3 (a) $l = \dots\dots\dots$

$h_0 = \dots\dots\dots$

[2]

(b)

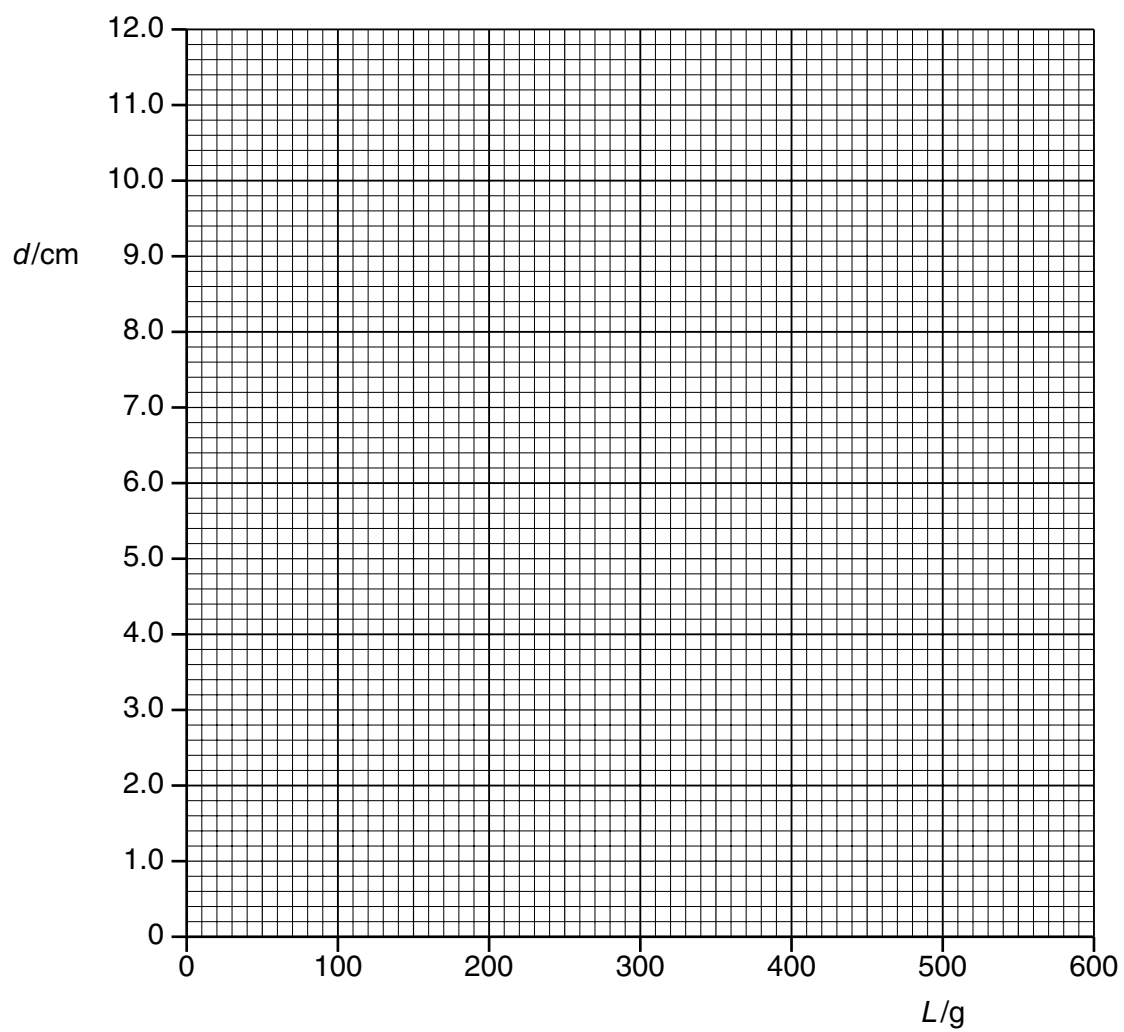
L / g	h / cm	$d = (h - h_0) / \text{cm}$
100		
200		
300		
400		
500		
600		

[4]

Explain how you should use the small rule to improve the accuracy of your reading of h .

.....

[3]



[6]

4 (a)

Table 1

l/cm	t_1/s	t_2/s	$t_{\text{average}}/\text{s}$
70			
60			
50			

[6]

(e)

Table 2

mass/g	t_1/s	t_2/s	$t_{\text{average}}/\text{s}$
20			
40			
50			

[6]

(h) Use your results in **Table 1** to describe how t_{average} changes as l is increased.

.....

[1]

(i) Use your results in **Table 2** to describe any effect of a change in M on t_{average} .

.....

[2]